WHAT IS CLAIMED IS:

1. An image decoding method comprising:

receiving an encoded bitstream including information of P and B frames; and

executing motion compensation by synthesizing a predicted image of a current frame using motion vector information included in the encoded bitstream and a reference image which is a previously decoded image,

wherein said motion compensation includes calculating intensity values at points where no pixels actually exist in the reference image by interpolation,

wherein said interpolation is done according to information specifying a positive rounding method or a negative rounding method when the current frame is a P frame, and

wherein said interpolation is done using a predetermined rounding method which is a positive rounding method or a negative rounding method when the current frame is a B frame.

2. An image decoding method according to claim 1, wherein said predetermined rounding method is a positive rounding method.

3. An image decoding method according to claim 2, wherein:

said positive rounding method is performed in accordance with the following equations:

$Ib=[(La+Lb+1)/2]$; $Ic=[(La+Lc+1)/2]$; $Id=[(La+Lb+Lc+Ld+2)/4]$, and

said negative rounding method is performed in accordance with the following equations:

$Ib=[(La+Lb)/2]$; $Ic=[(La+Lc)/2]$; $Id=[(La+Lb+Lc+Ld+1)/4]$,

where La is an intensity value of a first pixel in the reference image, Lb is an intensity value of a second pixel in the reference image which is horizontally adjacent to the first pixel, Lc is an intensity value of a third pixel in the reference image which is vertically adjacent to the first pixel, and Ld is an intensity value of a fourth pixel in the reference image which is vertically adjacent to the second pixel and horizontally adjacent to the third pixel, Ib is an interpolated intensity value at a midpoint between a position of the first pixel and a position of the second pixel, Ic is an interpolated intensity value at a midpoint between the position of the first pixel and a position of the third pixel, and Id is an interpolated intensity value of a midpoint between the position of the first pixel, the position of the second pixel, the position of the third pixel, and a position of the fourth pixel.

4. An image decoder comprising:

a memory to store a reference image which is a previously decoded image; and

a synthesizer to receive an encoded bitstream including information of P and B frames, and execute motion compensation by synthesizing a predicted image of a current frame using motion vector information included in the encoded bitstream and the reference image,

wherein said motion compensation includes calculating intensity values at points where no pixels actually exist in the reference image by interpolation,

wherein said interpolation is done according to information specifying a positive rounding method or a negative rounding method when the current frame is a P frame, and

wherein said interpolation is done using a predetermined rounding method which is a positive rounding method or a negative rounding method when the current frame is a B frame.

5. An image decoder according to claim 4, wherein said predetermined rounding method is a positive rounding method.

6. An image decoder according to claim 5, wherein:

said positive rounding method is performed in accordance with the following equations:

Ib=[(La+Lb+1)/2] ; Ic=[(La+Lc+1)/2] ; Id=[(La+Lb+Lc+Ld+2)/4], and

said negative rounding method is performed in accordance with the following equations:

$Ib=[(La+Lb)/2]$; $Ic=[(La+Lc)/2]$; $Id=[(La+Lb+Lc+Ld+1)/4]$,

where La is an intensity value of a first pixel in the reference image, Lb is an intensity value of a second pixel in the reference image which is horizontally adjacent to the first pixel, Lc is an intensity value of a third pixel in the reference image which is vertically adjacent to the first pixel, and Ld is an intensity value of a fourth pixel in the reference image which is vertically adjacent to the second pixel and horizontally adjacent to the third pixel, Ib is an interpolated intensity value at a midpoint between a position of the first pixel and a position of the second pixel, Ic is an interpolated intensity value at a midpoint between the position of the first pixel and a position of the third pixel, and Id is an interpolated intensity value of a midpoint between the position of the first pixel, the position of the second pixel, the position of the third pixel, and a position of the fourth pixel.